Meeting with Staff from FCC Wireless Telecommunications Bureau
Technical Presentation Summary
May 6, 2004

GigaBeam described the E-band radio that it has developed for the 71 - 76 GHz and 81 - 86 GHz frequency bands. GigaBeam explained that the E-band radio, which uses AM modulation, can achieve a data rate of 1.25 Gigabits operating in the far field (33 meter link distance and 30 cm antennas). The free space attenuation for this link is approximately 100 dB, operating with a bit error rate of 1 times ten to the minus 11th.

GigaBeam also described a "PSK like" modem, which operates at 1.25 Gigabits. This type of modem has approximately twice the bits per hertz as AM modem.

GigaBeam described its plan to enter the market using 1.25 and 2.5 Gigabit AM radios. Eventually, GigaBeam intends to migrate to PSK and more advanced modulation formats. Current plans are to introduce a 10 Gigabit radio by year end.

GigaBeam described the advantage of using lower antenna gain (with reduced EIRP) for low cost, shorter range applications (43 dB gain vs. 50 dB gain). GigaBeam also told WTB staff that it has encountered enthusiasm in the market for using Gigabit plus data rates in last mile network applications.

GigaBeam explained the evolution of its hardware design by comparing its current design against examples of 1990 era radios (38 GHz at 45 Megabits). The current design offers a 6 to one volume reduction and 3 to one weight reduction over the earlier radios.

GigaBeam reviewed the nature of the dual band FDD and explained how that band plan enables high density link concentrations. GigaBeam also explained that building owners will be able to act as their own frequency managers and insist on dual band FDD for roof tops that anticipate large numbers of links.

GigaBeam reviewed with WTB staff the apparent market acceptance for site licensing aspects of the millimeter wave spectrum and discussed the process for obtaining the nationwide license as well as each individual site license.